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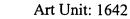
## APPENDIX A

- 48. A method for inhibiting T cell responsiveness, comprising (i) contacting a T cell which expresses a cytokine receptor  $\gamma$  chain with an agent which inhibits a signal associated with ligation of the cytokine receptor  $\gamma$  chain such that T cell responsiveness is inhibited, and (ii) detecting whether signal transduction via the cytokine receptor  $\gamma$  chain occurs, wherein the agent is selected form the group consisting of an anti-interleukin-4 antibody, an anti-interleukin-7 antibody, and an anti-interleukin-15 antibody.
- 72. The method of claim 48, wherein the agent acts extracellularly to inhibit delivery of a signal associated with the cytokine receptor  $\gamma$  chain.
- 73. The method of claim 72, wherein the agent binds to the cytokine receptor  $\gamma$  chain without stimulating a signal associated with the cytokine receptor  $\gamma$  chain in the T cell.
  - 74. The method of claim 73, wherein the agent is an anti-y chain antibody.
- 75. The method of claim 72, wherein the agent binds a natural ligand of the cytokine receptor  $\gamma$  chain to inhibit binding of the ligand to the cytokine receptor  $\gamma$  chain.
- 77. The method of claim 48, wherein the agent acts intracellularly to inhibit a signal associated with the cytokine receptor  $\gamma$  chain.
- 78. The method of claim 77, wherein the agent inhibits association of the cytokine receptor  $\gamma$  chain with a JAK3 kinase resulting in proliferation of the T cell.
- 79. The method of claim 77, wherein the agent inhibits tyrosine phosphorylation of a JAK3 kinase.
- 80. The method of claim 77, wherein the agent inhibits tyrosine phosphorylation of the cytokine receptor  $\gamma$  chain.
- 81. The method of claim 77, wherein the agent inhibits tyrosine phosphorylation of both the cytokine receptor  $\gamma$  chain and a JAK3 kinase.
  - 82. The method of claim 48, wherein the T cell is contacted *in vivo* with the agent.

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83. The method of claim 48, wherein the primary activation signal is delivered by an antigen.

- 84. The method of claim 83, wherein the antigen is an alloantigen.
- 85. The method of claim 83, wherein the antigen is an autoantigen.
- 86. The method of claim 83, wherein the T cell is contacted with the antigen and the agent *in vitro* and the method further comprises administering the T cell to a subject.
- 87. The method of claim 86, wherein the antigen is on a surface of an allogeneic or xenogeneic cell and the subject is a recipient of an allogenic or xenogeneic cell.
- 88. The method of claim 86, wherein the subject is suffering from an autoimmune disease or disorder associated with an inappropriate or abnormal immune response.
- 89. The method of claim 48, wherein the T cell is a donor T cell in bone marrow and the primary activation signal is delivered by a cell which expresses a recipient antigen, resulting in donor T cell unresponsiveness to the cell which expresses the recipient antigen and inhibition of graft-versus-host disease in a bone marrow transplant recipient.
  - 90. The method of claim 89, wherein the agent is an anti- $\gamma$  chain antibody.
- 91. The method of claim 89, wherein the agent binds a natural ligand of the cytokine receptor  $\gamma$  chain to inhibit binding of the ligand to the cytokine receptor  $\gamma$  chain.
- 93. The method of claim 91, wherein the agent inhibits association of the cytokine receptor  $\gamma$  chain with a JAK3 kinase resulting in proliferation of the T cell.
- 94. The method of claim 91, wherein the agent inhibits tyrosine phosphorylation of a JAK3 kinase.
- 95. The method of claim 91, wherein the agent inhibits tyrosine phosphorylation of the cytokine receptor  $\gamma$  chain.



96. The method of claim 91, wherein the agent inhibits tyrosine phosphorylation of both the cytokine receptor γ chain and a JAK3 kinase.

- 97. The method of claim 48, wherein the T cell is contacted with the agent *in vitro*.
- 98. A method for inhibiting responsiveness in an anergic T cell, comprising contacting said T cell with an agent which transduces a signal via the cytokine receptor  $\gamma$  chain such that T cell responsiveness is inhibited.
- 102. A method for inhibiting T cell responsiveness, comprising (i) contacting a T cell which expresses a cytokine receptor  $\gamma$  chain with an agent which inhibits a signal associated with ligation of the cytokine receptor  $\gamma$  chain such that T cell responsiveness is inhibited, and (ii) detecting whether signal transduction via the cytokine receptor  $\gamma$  chain occurs, wherein the agent is selected form the group consisting of an anti- $\gamma$  chain antibody, an anti-interleukin-4 antibody, an anti-interleukin-7 antibody, and an anti-interleukin-15 antibody.